

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) Apparatus, comprising:

a media reader having a read element capable of being communicatively coupled to a DVD compliant with the CSS specifications and containing scrambled digital content; a storage element including an input disposed for receiving the scrambled digital content from the media reader, the storage element configured to non-evanescently store the scrambled digital content using a storage technique substantially different from the DVD without descrambling said scrambled digital content; and a playback device coupled to the storage element, the playback device having an input disposed for receiving the scrambled digital content and an output configured to output a media stream derived from the scrambled digital content, the scrambled digital content at the input scrambled in accordance with a content scramble system (CSS).

2. (Previously Presented) Apparatus as in claim 1, wherein the output includes a signal following standards for protected signals specified by the CSS specifications.

3. (Previously Presented) Apparatus as in claim 1, whereby the playback device includes a CSS Descrambler.

4. (Previously Presented) Apparatus as in claim 1, whereby the playback device implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and utilizes the Master Key pair.

5. (Original) Apparatus as in claim 1, whereby the playback device does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key.

6. (Previously Presented) Apparatus as in claim 1, whereby the media reader does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair.

7. (Original) Apparatus as in claim 1, whereby the media reader incorporates and implements the functionality of the CSS Authentication Algorithm, and incorporates the Authentication Key.

8. (Previously Presented) Apparatus as in claim 1, whereby the media reader comprises an Authenticator for CSS Decryption Module and the playback device comprises a CSS Descrambler.

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Previously Presented) Apparatus as in claim 1, wherein the main printed circuit board of the playback device has at least five layers, and signals containing unscrambled compressed audiovisual data or key material used in unscrambling digital content run wherever feasible on traces in interior layers of the board.

15. (Previously Presented) Apparatus as in claim 1, wherein a signal containing unscrambled compressed audiovisual data or key material is processed by an integrated circuit included in said playback device, wherein said circuit is area-array packaged and surface-mounted, and wherein said signal is routed via interior contacts of said integrated circuit whenever feasible.

16. (Previously Presented) Apparatus as in claim 1, whereby a user can only control the apparatus through either an on-screen display and associated touchpad and IR remote control protocols, or through a Web user interface.

17. (Previously Presented) Apparatus as in claim 1, wherein said media stream comprises analog audio data, and whereby said audio data output from the playback device is either in a compressed format or else in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

18. (Currently Amended) Apparatus as in claim 1, wherein said media stream comprises analog video data, and whereby said analog video data output from the playback device does not have higher resolution than standard definition, unless ~~the~~ scrambled digital content has itself that higher resolution.

19. (Currently Amended) Apparatus as in claim 1, further comprising:  
a plurality of playback devices coupled to the storage element, each of said plurality of playback devices having an input disposed for receiving the scrambled digital content and an output configured to output a media stream derived from the scrambled digital content, wherein each of said plurality of playback devices is operable to output a different media stream.

20. (Previously Presented) Apparatus as in claim 1, wherein the output has a distinct controlling CPU from the storage element and has at least one of the properties in the set: being logically remote from the storage element, being physically remote from the storage element.

21. (Currently Amended) Apparatus as in claim 1, the scrambled digital content being maintained in a protected form

between the DVD and the media reader,  
between the media reader and the storage element,  
when stored on the storage element, and  
between the storage element and the playback device.

22. (Original) Apparatus as in claim 21, wherein  
at least two elements in the set: the storage element, the playback device, the media reader;

have, pairwise, at least two of the properties in the set: being logically remote, being physically remote, having more than one controlling CPU.

23. (Original) Apparatus as in claim 21, wherein  
at least two elements in the set: the storage element, the playback device, the media reader;

are pairwise physically remote, and have separate controlling CPUs.

24. (Original) Apparatus as in claim 1, wherein the media reader includes at least one DVD reader.

25. (Previously Presented) Apparatus as in claim 1, wherein the media reader includes a DVD drive.

26. (Previously Presented) Apparatus as in claim 1, wherein the storage element includes a magnetic disk drive.

27. (Currently Amended) Apparatus as in claim 1, wherein the scrambled digital content is maintained in a protected form for at least two cases in the set:

between the DVD and the media reader;

between the media reader and the storage element;

when stored on the storage element;

between the storage element and the playback device.

28. (Currently Amended) Apparatus as in claim 1, wherein the scrambled digital content is maintained in a protected form for at least three cases in the set:

between the DVD and the media reader;

between the media reader and the storage element;

when stored on the storage element;

between the storage element and the playback device.

29. (Currently Amended) Apparatus as in claim 21, wherein the protected form includes at least one of:

- an encrypted form of the scrambled digital content;
- an encrypted form of the scrambled digital content scrambled in accordance with CSS;
- a form of the scrambled digital content including digital rights information;
- a form of the scrambled digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

30. (Original) Apparatus as in claim 21, wherein the protected form has at least one of the properties in the set:

- resistant to attempts to defeat copy protection afforded by the protected form,
- impossible to defeat using user tools,
- difficult to defeat using professional tools.

31. (Original) Apparatus as in claim 21, wherein the protected form has at least two of the properties in the set:

- resistant to attempts to defeat copy protection afforded by the protected form,
- impossible to defeat using user tools,
- difficult to defeat using professional tools.

32. (Previously Presented) Apparatus as in claim 21, wherein the protected form is resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools.

33. (Previously Presented) Apparatus as in claim 1, wherein the media reader includes a first authenticator.

34. (Previously Presented) Apparatus as in claim 33, wherein the apparatus complies with the CSS specifications.

35. (Previously Presented) Apparatus as in claim 33, wherein the system is capable of having the first authenticator and a second authenticator authenticate each other before the media reader permits access to data.

36. (Canceled)

37. (Currently Amended) Apparatus as in claim 1, wherein the storage element has capacity to concurrently store scrambled digital content from plural DVDs.

38. (Currently Amended) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, wherein operation of the system allows for a substantial time duration between a first time of

storage of the scrambled digital content at the storage element, and a second time of output of any media stream derived therefrom.

39. (Currently Amended) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, wherein the scrambled digital content can be transported a substantial distance after being read by the media reader and before being output by the playback device.

40. (Previously Presented) Apparatus as in any of claims 1 or 20 or 21 or 32 or 33, including a system internal link operable to communicate compressed digital data representing media streams,

wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, digital rights information, digital rights key information.

41. (Previously Presented) Apparatus as in claim 40, including coupling via the system internal link, at least two of the set: the media reader, the storage element, the playback device.

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Currently Amended) A method of playing a DVD, including steps of reading the DVD including scrambled digital content representing at least one media stream scrambled in accordance with a content scramble system (CSS); non-evanescently storing the scrambled digital content in a protected form using a storage mechanism different from the DVD; and playing back the ~~digital content media stream~~ after conversion into analog, digital, or analog and digital audiovisual content for presentation, wherein said media stream is descrambled at a time of playback.

46. (Previously Presented) A method as in claim 45, wherein additional protection is used on the DVD, by the storage mechanism, or both.

47. (Previously Presented) A method as in claim 46, wherein the additional protection used on the DVD is different from the additional protection used by the storage mechanism.

48. (Previously Presented) A method as in claim 45, wherein the protected form is scrambled in accordance with CSS.

49. (Original) A method as in claim 48, whereby the step of playing back incorporates and implements the functionalities of Disc Key Recovery Logic, Title Key Recovery Logic, and the Content Scrambling Algorithm, and involves the Master Key pair.

50. (Original) A method as in claim 48, whereby the step of playing back does not incorporate or implement the functionality of the CSS Authentication Algorithm, or incorporate the Authentication Key.

51. (Original) A method as in claim 48, whereby the step of reading does not incorporate or implement the functionalities of any of Disc Key Recovery Logic, Title Key Recovery Logic, or the Content Scrambling Algorithm, or incorporate the Master Key pair.

52. (Original) A method as in claim 48, whereby the step of reading incorporates and implements the functionality of the CSS Authentication Algorithm, and involves the Authentication Key.

53. (Previously Presented) A method as in claim 48, further comprising:  
performing the function of an Authenticator for CSS Decryption Module,  
wherein the step of playing back comprises performing the function of a CSS Descrambler.

54. (Canceled)

55. (Canceled)

56. (Canceled)

57. (Previously Presented) A method as in claim 48, whereby said playing back analog audiovisual content comprises outputting audio data in either a compressed format or else in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

58. (Previously Presented) A method as in claim 48, whereby said playing back analog audiovisual content comprises outputting analog video data which does not have higher resolution than standard definition, unless the content recorded on the DVD has itself that higher resolution.

59. (Currently Amended) A method as in claim 45, wherein the protected form includes at least one of:

an encrypted form of the scrambled digital content;

an encrypted form of the scrambled digital content scrambled in accordance with CSS;

a form of the scrambled digital content including digital rights information;

a form of the scrambled digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

60. (Currently Amended) A method as in claim 45, wherein the protected form includes an encrypted form of the scrambled digital content scrambled in accordance with CSS; and

an additional layer of protection, by any technique, for any substantial portion of the steps of reading, storing, and playing back.

61. (Previously Presented) A method as in claim 45, wherein the step of reading occurs in a media reader having at least one DVD drive.

62. (Canceled)

63. (Original) A method as in claim 61, wherein the media reader includes a first authenticator.

64. (Previously Presented) A method as in claim 63, wherein the method complies with the CSS license and the CSS procedural specification.

65. (Previously Presented) A method as in claim 64, wherein said reading comprises having the first authenticator and a second authenticator authenticate each other before permitting access to data.

66. (Canceled)

67. (Previously Presented) A method as in claim 64, further comprising:  
extracting keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from the DVD, using a key associated with the playback device, that key not being available from the DVD, in compliance with the CSS license and the CSS procedural specification.

68. (Previously Presented) A method as in claim 64, wherein said reading comprises having the first authenticator and a second authenticator authenticate each other before the media reader permits access to data, and said playing back comprises using CSS descrambling procedures.

69. (Original) A method as in claim 45, wherein at least two of the following steps occur at logically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back.

70. (Original) A method as in claim 45, wherein at least two of the following steps occur at physically remote locations: the step of reading, the step of non-evanescently storing, and the step of playing back.

71. (Original) A method as in claim 45, wherein the step of playing back occurs at a plurality of playback devices, at least two of those playback devices being pairwise substantially physically remote from each other.

72. (Previously Presented) A method as in claim 45, wherein a substantial time duration may occur between the step of non-evanescently storing and the step of playing back.

73. (Canceled)

74. (Currently Amended) A method as in claim 45, wherein the scrambled digital content may be transported a substantial distance between the step of reading and the step of playing back.

75. (Previously Presented) A method as in claim 45, wherein a system internal link is used between two of the steps of reading, non-evanescently storing, and playing back, the system internal link able to communicate compressed digital data representing media streams; and wherein any key materials in data communicated using the system internal link are not substantially accessible to an external entity without an authorized cryptographically secure key.

76. (Withdrawn) A method of doing business, including steps of sending data from a device that reads a physical medium to a remote playback device while complying with CSS license agreement terms and CSS procedural specification terms.

77. (Withdrawn) A method of doing business as in claim 76, wherein the steps of sending data to a remote playback device include causing that playback device to be ready to playback that data.

78. (Cancelled)

79. (Withdrawn) A method of doing business as in claim 76, wherein the device that reads the physical medium and the remote playback device have separate controlling CPUs, and have at least one of the properties in the set: being logically remote, being physically remote.

80. (Withdrawn) A method of doing business as in claim 76, including steps of storing data from the physical medium in a storage element capable of non-evanescently storing that digital content using a storage technique substantially different from the physical medium.

81. (Withdrawn) A method of doing business as in claim 76, including steps of storing data from the physical medium in a storage element capable of non-evanescently storing that digital content using a storage technique substantially different from the physical medium; and wherein the playback device is coupled to the storage element, the playback device having an input disposed for receiving the digital content and having an output disposed for coupling a media stream represented by that digital content for presentation.

82. (Withdrawn) A method of doing business as in claim 81, whereby the playback

device includes a CSS descrambler.

83. (Withdrawn) A method of doing business as in claim 81, wherein the playback device includes a plurality of those outputs disposed for presentation, at least two of those outputs pairwise have separate controlling CPUs, and have at least one of the properties in the set: being logically remote, being physically remote.

84. (Withdrawn) A method of doing business as in claim 81, wherein the playback device includes at least one of those outputs disposed for presentation and having at least one of the properties in the set: being logically remote from the storage element, being physically remote from the storage element, having a distinct controlling CPU from the storage element.

85. (Withdrawn) A method of doing business as in claim 81, wherein data is read from the physical medium by a media player before being sent to the storage element, and wherein the media reader includes a read element capable of being coupled to the physical medium, the digital content being maintained in a protected form between the media reader and at least one of: the storage element, the playback device.

86. (Withdrawn) A method of doing business as in claim 85, wherein at least two elements in the set: the storage element, the playback device, the media reader; have collectively more than one controlling CPU, and have pairwise, at least one of the properties in the set: being logically remote, being physically remote.

87. (Withdrawn) A method of doing business as in claim 85, wherein the digital content is maintained in a protected form for substantially an entire path including: between the physical medium and the media reader; between the media reader and the storage element; when maintained on the storage element; between the storage element and the playback device.

88. (Withdrawn) A method of doing business as in claim 85, wherein the protected form includes at least two of: an encrypted form of the digital content; an encrypted form of the digital content complying with the CSS license; a form of the digital content including digital rights information; a form of the digital content including digital rights information for which it is substantially difficult to remove that digital rights information.

89. (Withdrawn) A method of doing business as in claim 85, wherein the protected form has at least one of the properties in the set: resistant to attempts to defeat copy protection afforded by the protected form, impossible to defeat using user tools, difficult to defeat using professional tools.

90. (Withdrawn) A method of doing business as in claim 85, wherein the protected form has at least two of the properties in the set: resistant to attempts to defeat copy protection afforded by the protected form, impossible to defeat using user tools, difficult to defeat using professional tools.

91. (Withdrawn) A method of doing business as in claim 85, wherein the protected form is substantially resistant to attempts to defeat copy protection afforded by the protected form, is substantially impossible to defeat using user tools, and is substantially difficult to defeat using professional tools.

92. (Withdrawn) A method of doing business as in claim 81, wherein the storage element has capacity to concurrently store digital content from plural physical media.

93. (Withdrawn) A method of doing business as in claim 81, wherein at least one possible output from the playback device includes an analog audiovisual content; and the second protected form by which the analog audiovisual content is protected includes analog copy protection.

94. (Withdrawn) A method of doing business as in claim 93, wherein the analog copy protection is Macrovision copy protection.

95. (Withdrawn) A method of doing business as in claim 81, wherein at least one output from the playback device includes a digital audiovisual content; and the second protected form by which the digital audiovisual content is protected includes a technique substantially like HDCP.

96. (Withdrawn) A method of doing business as in claim 81, wherein operation of the

system includes at least a substantial time duration between a first time of storage of the digital content at the storage element, and a second time of output of any media stream derived in response thereto.

97. (Withdrawn) A method of doing business as in claim 81, wherein the digital content is transported any substantial distance after being read by the media reader and before being output by the playback device.

98. (Withdrawn) A method of doing business as in claim 81, including at least one system internal link, the at least one system internal link including a link able to communicate compressed digital data representing media streams; wherein at least one of the following communicated using the system internal link is not substantially accessible to an external entity without an authorized cryptographically secure key: digital information representing at least one media stream, DRM information, DRM key information.

99. (Withdrawn) A method of doing business as in claim 98, including steps of coupling by a least one system internal link, at least two of the set: the media reader, the storage element, the playback device.

100. (Withdrawn) A method of doing business as in claim 81, wherein data is read from the physical medium by a media player before being sent to the storage element, and wherein the media reader includes a read element for physical media, the physical media including digital

content representing at least one media stream, the digital content being maintained in a protected form, and the read element including a first authenticator; a second authenticator; an interface to a storage element; and a controller capable of (1) causing the first authenticator and the second authenticator to authenticate each other before the read element accesses the physical media, and (2) causing the read element to read data from the physical media and output the data to the interface with DRM information intact.

101. (Withdrawn) A method of doing business as in claim 100, wherein the read element includes a DVD drive.

102. (Withdrawn) A method of doing business as in claim 100, wherein the media reader can output the data to the storage element whether or not the storage element is logically remote from the media reader.

103. (Previously Presented) Apparatus as in claim 1, wherein the storage element includes an array of magnetic disk drives wherein data is stored redundantly in such a way that all data may be recovered after the failure of any one disk drive therein.

104. (Previously Presented) Apparatus as in claim 1, wherein said playback device further comprises a plurality of outputs configured to simultaneously output said media stream.

105. (Previously Presented) Apparatus as in claim 1, wherein said playback device further comprises a second output configured to output a second media stream.

106. (Previously Presented) Apparatus as in claim 1, wherein the media stream comprises analog audiovisual content in a protected form including analog copy protection.

107. (Previously Presented) Apparatus as in claim 106, wherein the analog copy protection comprises Macrovision copy protection.

108. (Previously Presented) Apparatus as in claim 1, wherein the media stream is protected with a technique substantially similar to high-bandwidth digital content protection (HDCP).

109. (Previously Presented) Apparatus as in claim 34, wherein the apparatus is configured to extract keys that can be used to descramble CSS data, by an indirect manner from the key materials copied from the DVD, using a key associated with the playback device, that key not being available from the DVD.

110. (Previously Presented) A method as in claim 45, wherein said conversion comprises adding Macrovision copy protection.

111. (Previously Presented) A method as in claim 45, wherein said conversion comprises applying a technique substantially similar to high-bandwidth digital content protection (HDCP).

112. (Currently Amended) A media playback device, comprising:  
a network connection for receiving scrambled digital content from a remote media storage device, said scrambled digital content extracted from a DVD and scrambled in accordance with a content scramble system (CSS);  
a CSS descrambler, coupled to said network connection, for processing said scrambled digital content into a media stream for presentation; and  
an output, for outputting said media stream to a presentation device,  
wherein said media stream comprises a signal in compliance with a standard for protected signals specified by the CSS procedural specifications, and wherein said processing is performed at a time of presentation.

113. (Previously Presented) The media playback device of Claim 112, wherein said media stream comprises audio data in either a compressed format or in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

114. (Previously Presented) The media playback device of Claim 112, wherein said media stream comprises analog video data having resolution no higher than standard definition, unless said digital content has resolution higher than standard definition.

115. (Previously Presented) The media playback device of Claim 112, wherein said media stream comprises analog audiovisual data protected by an analog copy protection scheme.

116. (Previously Presented) The media playback device of Claim 115, wherein said analog copy protection scheme comprises Macrovision copy protection.

117. (Previously Presented) The media playback device of Claim 112, wherein said media stream comprises digital audiovisual data protected by a digital copy protection scheme substantially similar to the high-bandwidth digital content protection (HDCP) scheme.

118. (Previously Presented) The media playback devices Claim 112, further comprising: a second output for outputting said media stream to a second presentation device.

119. (Currently Amended) The media playback device of Claim 112, wherein said network connection is also for receiving additional scrambled digital content from said remote media storage device, said CSS Descrambler is also for processing said additional scrambled digital content into a second media stream, and said media playback device further comprises: a second output for outputting said second media stream to a second presentation device wherein said second media stream comprises a signal in compliance with a standard for protected signals specified by the CSS specifications.

120. (Currently Amended) A system, comprising:

a media reader having a read element capable of being coupled to a DVD complying with the CSS specifications and containing scrambled digital content; and

a storage element having an input operable for receiving the scrambled digital content from the media reader,

wherein the storage element is operable to non-evanescently store the scrambled digital content in a manner substantially different from the DVD, without descrambling the stored digital content.

121. (Previously Presented) The system of Claim 120, wherein said media reader incorporates and implements functionality associated with a CSS Authentication Algorithm, and comprises an associated Authentication Key.

122. (Previously Presented) The system of Claim 120, wherein said media reader comprises a DVD drive.

123. (Previously Presented) The system of Claim 122, wherein said DVD drive comprises a first authenticator, said media reader comprises a second authenticator, and said system is configured to have said first authenticator and said second authenticator authenticate each other before said media reader accesses said DVD.

124. (Previously Presented) The system of Claim 120, wherein said storage element comprises a magnetic disk drive.

125. (Currently Amended) The system of Claim 120, wherein said storage element comprises sufficient storage to concurrently store scrambled digital content corresponding to a plurality of DVDs.

126. (Currently Amended) A method of reading and storing scrambled digital content, comprising:

reading the scrambled digital content from a DVD compliant with the content scramble system (CSS) specifications;

sending the scrambled digital content to a storage device; and

storing the scrambled digital content non-evanescently, in a manner substantially different from the DVD, without descrambling said scrambled digital content.

127. (Previously Presented) The method of Claim 126, further comprising:

authenticating a media reader, before said reading is allowed to occur.

128. (Currently Amended) A system, comprising:

a storage element for non-evanescently storing scrambled digital content ~~derived~~ ~~extracted~~ from a DVD, stored using a technique substantially different from the DVD, and protected by a content scramble system (CSS), the storage element having an output for sending the scrambled digital content; and

a playback device for producing a media stream derived from the scrambled digital content, and having an input for receiving the scrambled digital content from the storage element,  
wherein said digital content is descrambled at a time of playback.

129. (Previously Presented) The system of Claim 128, wherein said media stream comprises audio data in either a compressed format or in a Linear PCM format in which the transmission information is sampled at no more than 48 kHz and no more than 16 bits.

130. (Currently Amended) The system of Claim 128, wherein said media stream comprises analog video data having resolution no higher than standard definition, unless said scrambled digital content has resolution higher than standard definition.

131. (Previously Presented) The system of Claim 128, wherein said media stream comprises analog audiovisual data protected by an analog copy protection scheme.

132. (Previously Presented) The system of Claim 128, wherein said media stream comprises digital audiovisual data protected by a digital copy protection scheme substantially similar to the high-bandwidth digital content protection (HDCP) scheme.

133. (Currently Amended) The system of Claim 128, wherein operation of said system allows for a substantial time duration between a first time of storage of said scrambled digital content at said storage element, and a second time of output of said media stream.

134. (Currently Amended) A method of playing back stored scrambled digital content, comprising:

accessing the stored scrambled digital content, the stored scrambled digital content having been ~~derived~~ extracted from a DVD compliant with the CSS specifications, stored using a technique substantially different from the DVD, and protected by a content scramble system (CSS);

sending the stored scrambled digital content to a playback device; and producing a media stream derived from the stored scrambled digital content for playback, said producing comprising descrambling said stored scrambled digital content at a time of playback.

135. (Currently Amended) The method of Claim 134, wherein a substantial time duration elapses between a first time when said scrambled digital content is stored and a second time when said scrambled digital content is accessed.